

1. Description

The PESDNC5D5VB protects sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events. They feature large cross-sectional area junctions for conducting high transient currents, offer desirable electrical characteristics for board level protection, such as fast response time, low operating voltage.

3. Applications

- Cellular phones
- Portable devices

4. Mechanical Characteristics

- Lead finish: 100% matte Sn(Tin) Mounting
- position: Any
- Qualified max reflow temperature: 260°C

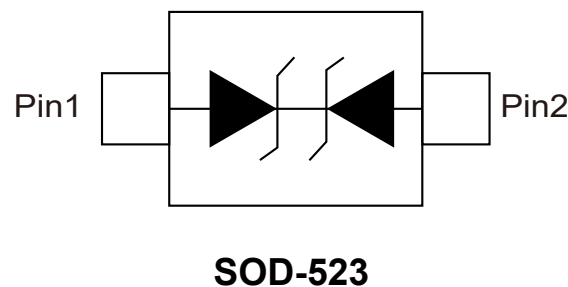
5. Pinning information

2. Features

- 80W peak pulse power per line ($t_p=8/20\mu s$)
 - Replacement for MLV(0603)
 - Bidirectional configurations
 - Protects one power or I/O port
 - Low clamping voltage
- Transient protection for data lines to IEC 61000-4-2(ESD)+30KV(air),+30KV(contact);
IEC 61000-4-4(EFT)40A(5/50ns)

- Digital cameras
- Power supplies

- Device meets MSL 1 requirements
- Pure tin plating: 7 ~ 17 μm
- Pin flatness: $\leq 3mil$





6. Absolute Maximum Ratings $T_A = 25^\circ\text{C}$

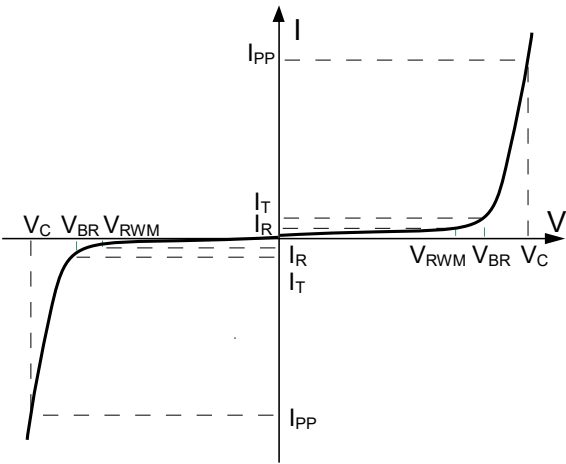
Parameter	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu\text{s}$)	P_{PP}	80	W
Junction Temperature	T_J	-55 to +150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 to +150	$^\circ\text{C}$



7.Electrical Characteristic (T_A=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Peak Reverse Working Voltage	V _{RWM}				5	V
Breakdown Voltage	V _{BR}	I _T =1mA	6		8	V
Reverse Leakage Current	I _R	V _{RWM} =5V, T=25°C			1	μA
Junction Capacitance	C _J	V _R =0V, f=1MHz		20		pF

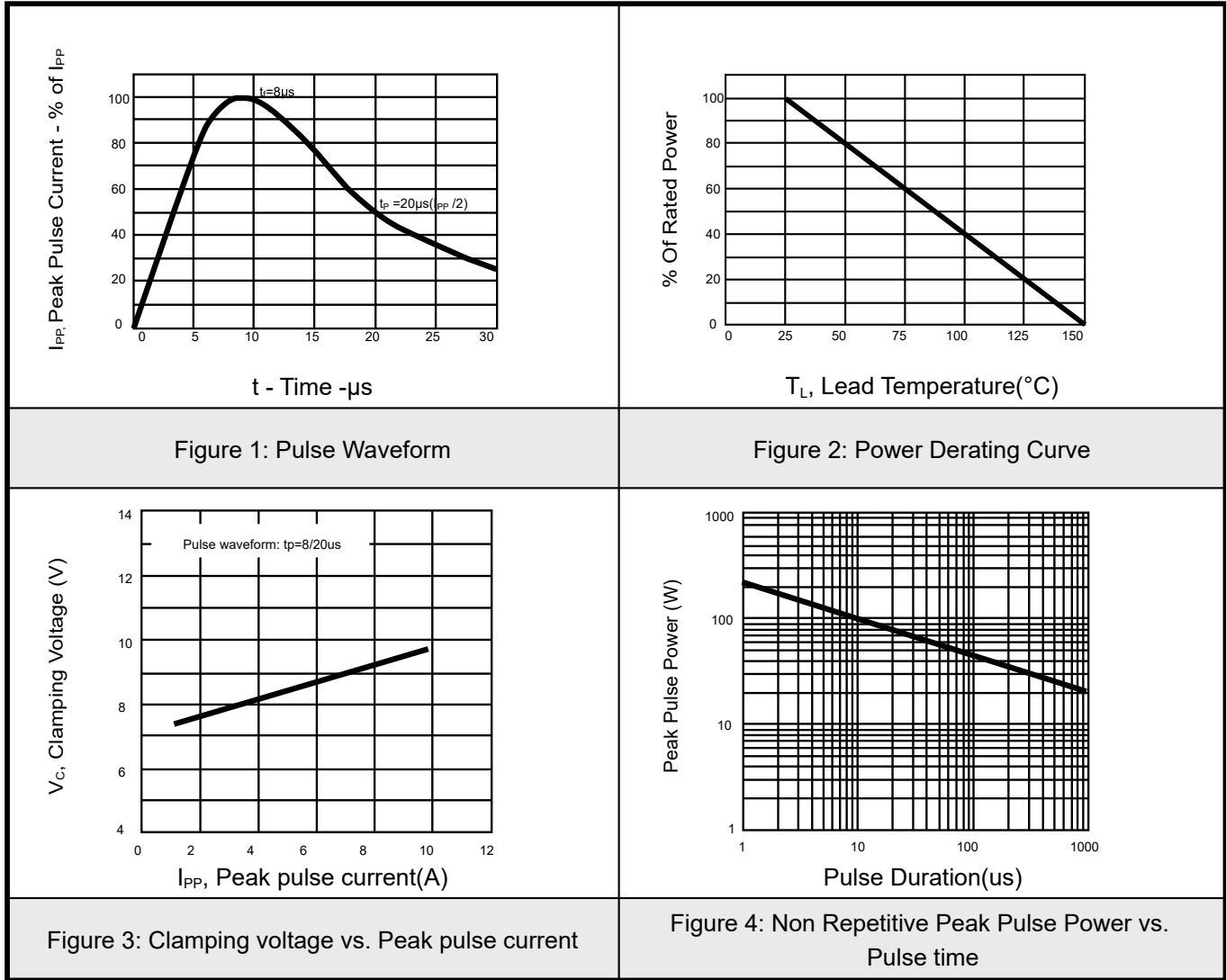
8.Electrical Parameters (T_A=25°C unless otherwise noted)



Symbol	Parameter
V _{RWM}	Peak Reverse Working Voltage
I _R	Reverse Leakage Current @ V _{RWM}
V _{BR}	Breakdown Voltage @ I _T
I _T	Test Current
I _{PP}	Maximum Reverse Peak Pulse Current
V _C	Clamping Voltage @ I _{PP}
P _{PP}	Peak Pulse Power
C _J	Junction Capacitance
I _F	Forward Current
V _F	Forward Voltage @ I _F



9. Typical characteristic





10.Solder Reflow Recommendation

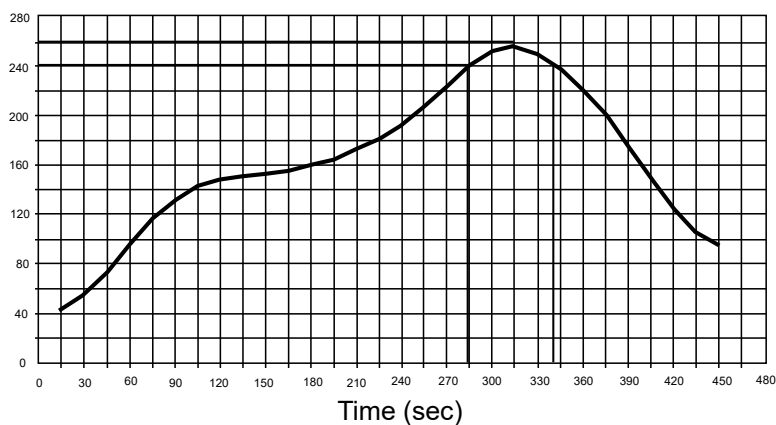


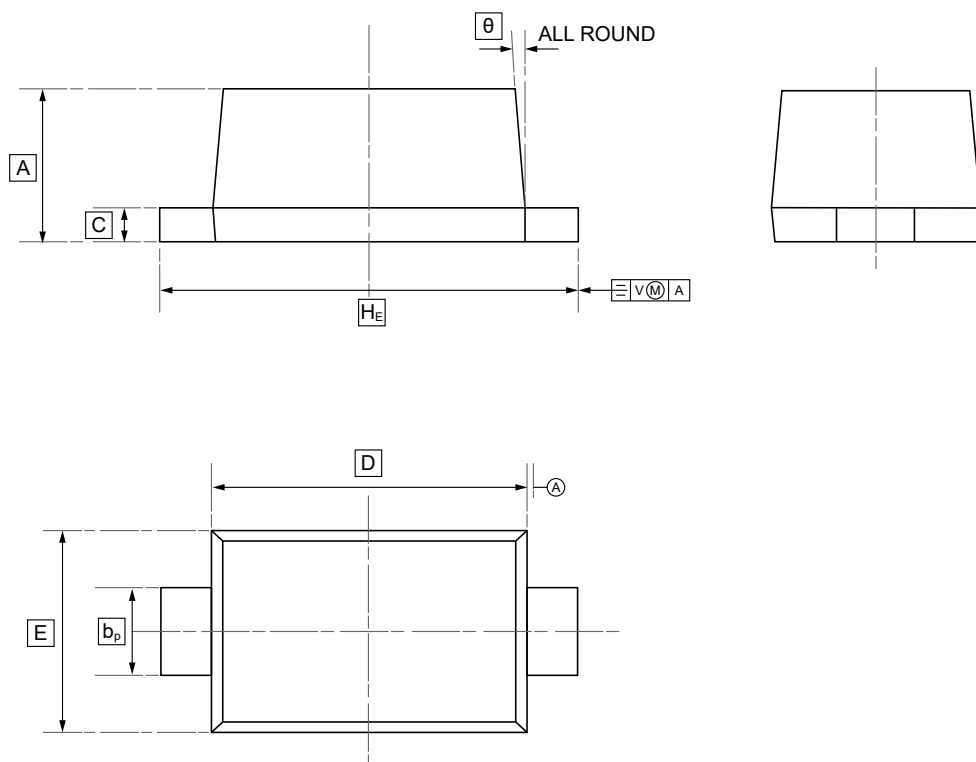
Figure 5: Peak Temp=257°C, Ramp Rate=0.802deg. °C/sec

For TVS diodes a low-ohmic and low-inductive path to chassis earth is absolutely mandatory in order to achieve good ESD protection. Novices in the area of ESD protection should take following suggestions to heart:

- Do not use stubs, but place the cathode of the TVS diode directly on the signal trace.
- Do not make false economies and save copper for the ground connection.
- Place via holes to ground as close as possible to the anode of the TVS diode.
- Use as many via holes as possible for the ground connection.
- Keep the length of via holes in mind! The longer the more inductance they will have.



11.SOD-523 Package Outline Dimensions



DIMENSIONS (mm are the original dimensions)

Symbol	A	b _p	C	D	E	H _E	θ
Min	0.58	0.3	0.100	1.15	0.75	1.5	5°
Max	0.68	0.4	0.135	1.25	0.85	1.7	



12.Ordering information



yww: Batch Code

Order Code	Package	Base QTY	Delivery Mode
UMW PESDNC5D5VB	SOD-523	3000	Tape and reel



13.Disclaimer

UMW reserves the right to make changes to all products, specifications. Customers should obtain the latest version of product documentation and verify the completeness and currency of the information before placing an order.

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